

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner:	Lavinder, Jack. W.
Reissue Application of:	Tiffany & Company
For:	Cut Cornered Square Mixed-Cut Gemstone
Reissue Application No.	10/626,376
Reissue Filing Date:	07/24/2003
Original Patent No.	6,363,745
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Confirmation No.:	2506

October 20, 2009

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S i r:

FOURTH SUPPLEMENTAL DECLARATION OF ROBERT S. GREEFF

I, Robert S. Greeff, declare as follows:

1. I am the named inventor of the above-identified patent and re-issue application.
2. This *Fourth Supplemental Declaration* supplements my earlier Declarations filed in this application.
3. Gemstone cuts through the years have generally tried to maximize the three qualities of dispersion, brilliance or scintillation, and even a fourth factor which is the yield of a gemstone (which is the fully cut weight compared to the start rough weight). Generally speaking, designers are motivated to improve at least one of these qualities, while not

detrimentally impacting the other qualities. While there is always a tradeoff, the gemstone designers would not be interested in coming up with designs that did not result in any improvement in at least one of the four features of dispersion, brilliance or scintillation, or yield.

4. Gemstone designs have gone through many styles over the years. In the late 1800s and early 1900s, the cushion cut, with rounded sides and corners resembling a pillow or cushion, was very popular and sought after by purchasers, and gemstone designers and suppliers were active in cushion cut designs.

5. In the early 1900s, the brilliant cut, such as the round brilliant which has three and four sided facets with non-parallel side lines, became very popular, and most gemstones even today have a brilliant faceting arrangement. The number and arrangement of the facets were designed to obtain a maximum degree of light reflection and dispersion (sometimes called “fire”). However, the increased dispersion comes at a heavy price of much loss of the stone, as most brilliant cuts are less than 50% of the rough weight. But designers thought that the resultant increase in dispersion, as well as brilliance, greatly made up for the sacrifice in yield loss with the round brilliant cut.

6. Step cut faceting arrangements have been around for many years, and are characterized by having successive series of trapezoidal facets (“steps”) in both the crown and pavilion. This design gives the gemstone a less lustrous effect, with lower dispersion compared with brilliant cuts, but save much more of the rough material to improve the yield. Designers know that step cuts are much less brilliant have less dispersion than brilliant cuts, but the increase in yield more than makes up for it in the minds of the designers, and many purchasers prefer yield over brilliance and dispersion, and like the look regardless.

7. Mixed cuts are a hybrid combination of brilliant cuts and step cuts. Most of the

mixed cuts have brilliant cuts in the crown and step-cuts in the pavilion. This gives a relatively good dispersion in the crown (but not as much as a full brilliant cut), and saves a lot of the material in the pavilion. The mixed cut is thus a trade off between good dispersion and minimizing stone material loss, and is thought by many designers to provide a good balance or improvement overall in the four stone qualities of dispersion, brilliance, scintillation, and yield.

8. Some mixed cuts have a step crown and a brilliant pavilion. These arrangements also provide a balance or compromise between good dispersion and stone yield. The Montana Burst stone is an example of such a type of mixed cut. If one skilled in the art was aware of the Montana Burst, there is no reason why one would modify the arrangement in order to improve dispersion, brilliance, or scintillation. Modifying the side lengths, so that four sides would be longer than four shorter corners, would not be thought of by gemstone designers as resulting in any improvement in dispersion, brilliance or scintillation. Accordingly, there is no reason why one would modify the Montana Burst design.

9. When I conceived the design for the gemstone which is defined by the subject claims, I was seeking to create a novel overall look which had not been achieved before. I was not primarily motivated or interested in improving dispersion, brilliance or scintillation, compared to other mixed cuts, or the round brilliant, which I believe was the most popular gemstone design being sold at the time. I was seeking to provide an entirely new concept, which was a cut cornered, essentially square step crown having shorter corners than sides, so that the pavilion would have four predominant large side mains just below the girdle, with rib lines extending from the girdle to the culet to define the four pavilion sides and four shorter corners. The sides would predominate, while the much smaller corners would shadow or mimic the sides but on a much smaller scale. This novel concept I created departed substantially in overall look

from a completely symmetrical stone having equal sides along its girdle.

10. I believe that, if a gemstone designer was seeking to improve the dispersion, brilliance or scintillation, or even yield, they would not have arrived or be motivated to provide the subject gemstone design I conceived, even if they started with the Montana Burst stone, and was aware of the Grossbard gemstone being cited in combination with the Montana Burst against the subject claims, because my design would not have been thought to be an improvement in dispersion, brilliance or scintillation, or even yield, of the Montana Burst stone. In this way, I believe that my design objectives were a significant departure from the objectives that gemstone designers normally try to achieve, which is to improve at least one of dispersion, brilliance or scintillation, or yield. Furthermore, the Montana Burst sought as a main objective an eight sided stone with all sides of equal length, to provide perfect symmetry on all of the sides. My inventive design was a significant, non-trivial, and unconventional departure from that thinking, by providing a non-symmetrical stone having sides much longer than the corners, in order to provide four larger pavilion mains below the girdle, as described above.

11. I hereby declare that all statements made herein on my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the subject patent.

Date: _____

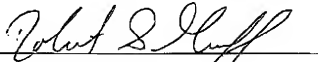
Robert S. Greeff

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Date: 10/20/09



Robert S. Greeff